

USDA APHIS Eastern Region / Centennial Campus Middle School Educational Partnership

partnership



Centennial Campus
MIDDLE SCHOOL



AMERICA'S PROMISE
THE ALLIANCE FOR YOUTH®



in Education



Overview



- Overview of AERO PIE program
- How we made it work
- What the students accomplished

AERO PIE Program



- With Centennial Campus Middle School since 2003
- Each school year four students visit the APHIS office once a week for 1 ½ hours.
 - two 8th (from the year previous)
 - two 7th grade



AERO PIE Program



- Hands on experience in a real office environment.
- Responsible for presenting what they have learned through web pages or in person presentations to:
 - the APHIS staff,
 - their fellow students, and
 - in some cases, a large conference in the NC Area



Location, location, location



- CCMS is located on NC State's Centennial Campus
 - A research and technology community of university, industry, & government partners.
- The Centennial Campus Partnership provides opportunities for students to participate actively in real world, hands-on instruction.
- Close proximity helped the USDA to create this opportunity for CCMS Students.

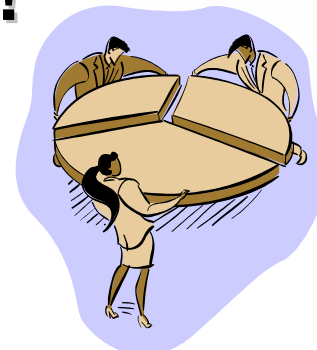


How We Made it Work



- **We Shared the Students**

- Accommodates busy work & travel schedules
- Lets employees mentor or tutor as available
- Lets the students come more often
- Students love the extra attention, too!



How We Made it Work



- **The Students Come to Us**

- The students were able to see the real working environment
- It enabled us to spend more time with the Students and less time traveling



How We Made it Work



- **Students Led the Content**

- After Introduction to APHIS
- We let the students find what interested them
- Then let the students create a website or an activity for their peers



How We Made it Work



- **Teachers Aligned Content with Curriculum**

- Teachers came with the students each week
- Helped with supervising
- Helped make sure the work benefited the students



The Students Learned How:



- **The following tools can be used in the day to day operations of APHIS:**
 - **Medical Geography**
 - **Geographic Information Systems**
 - **Global Positioning Systems**
- **To use GIS & GPS Units to create an activity for their classmates**



Medical Geography

Ann Margaret Dietrich



Ann Margaret Dietrich is an 8th grader at Centennial Campus Middle School. I enjoy hanging out with my friends, playing basketball, hunting, and working on the farm with my dad. "My internship with the USDA has inspired me to pursue a career in veterinary medicine or another agricultural related career."

John Snow 1st Medical Geographer



- Deadly cholera appeared in London in 1853-54
- Used his skills to investigate & identify the likely cause.
- Used bars to represent deaths that occurred.
- Dotted line encloses area closer to the Broad Street pump than any other pump.
- This pump was making everyone sick.



Influenza 1917-1919



- Influenza spread throughout the world
- Estimated to have killed approximately 20-40 million people worldwide
- More people died of influenza in a single year than in four-years of the Black Death (Bubonic Plague) from 1347 to 1351.



Mapping the Spread of the Influenza



- Using GIS you can track the spread in the USA from Sep. 14 to Oct 5, 1918

Approximate beginning of the epidemic, 1918



before sept. 14	between sept. 14 - 21	between sept. 21 - 28	between sept. 28 - oct. 5	after oct. 5
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Source: *America's Forgotten Pandemic - The Influenza of 1918 - 1989*

Avian Influenza 2000



- Farmers count on the USDA to identify and stop the spread of diseases.
- Avian Influenza outbreak in Virginia.
- USDA staff took GPS readings at all the farm and plotted them to show the spread of the disease.
- Helped the USDA to quickly take care of the disease before it became a major problem for other states.



Learning GPS, GIS & Change Detection

Stephen Zevgolis



Stephen Zevgolis is a 7th grader at Centennial Campus Middle School. I love Math and geography and GPS is my thing! "My favorite thing about the USDA internship was the geocache we placed at our school."

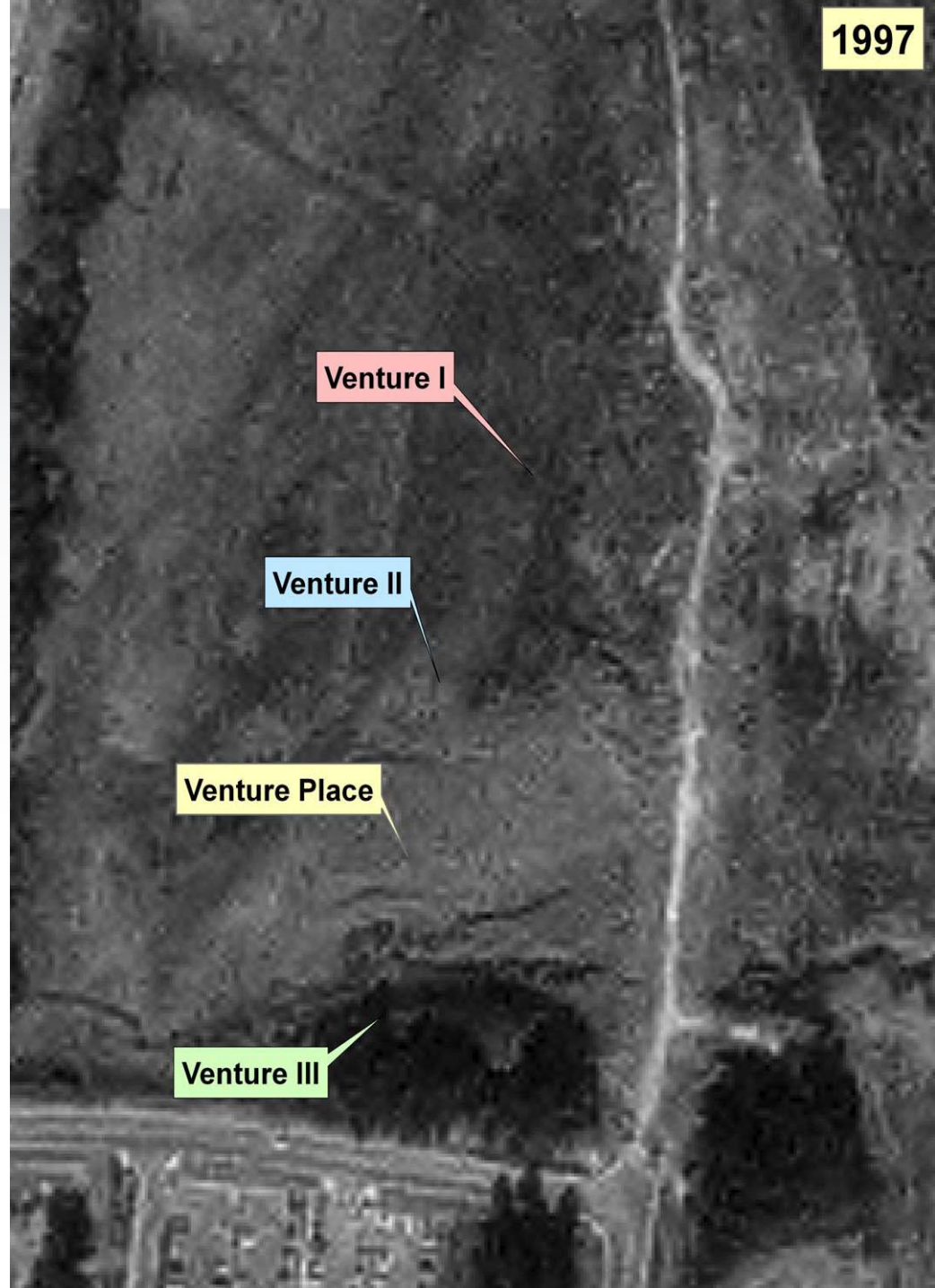
Ways to use GPS

- GPS Systems can find a place using satellites
- Navigation
- Finding trails
- Finding geocaches



Change Detection

- Learned to use GIS to examine changes over time
- Here the USDA Office (Venture Place) was not built yet



1999



2002



Change Detection

- Centennial Campus Middle School prior to its construction.
- Vacant Countryside

1997



1999



2002



Geocaching

Christina Goodson



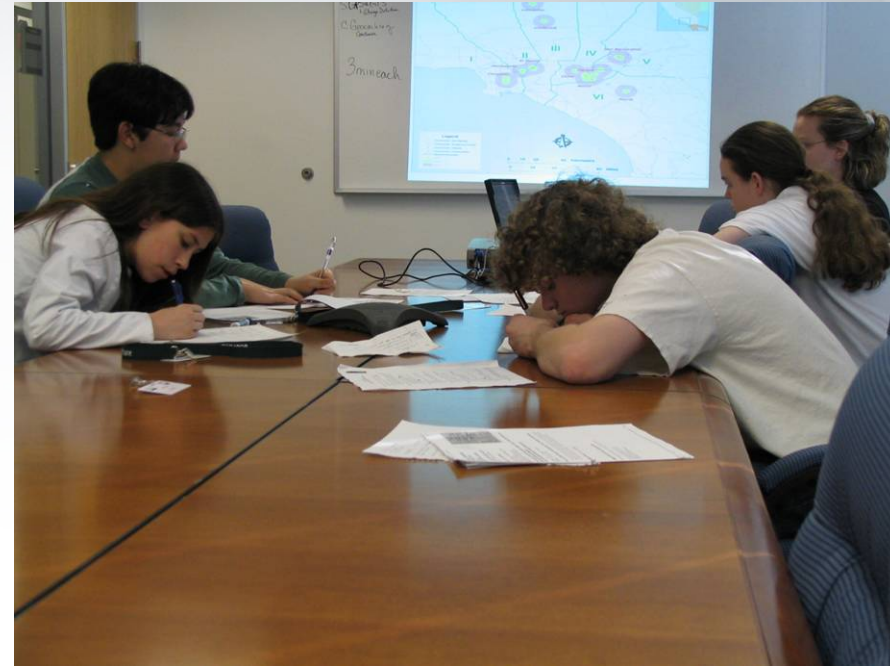
Christina Goodson is a 7th grader at Centennial Campus Middle School. I enjoy reading and writing. "I really enjoyed placing our geocache at our school for our fellow students."



The USDA Interns at Work



- This is our usual environment --in the office.
- However, we worked on a special project this year called geocaching.
- We prepared a cache, named it, and set it loose at our school.
- We are going to teach eighth grade students from our school how to use a GPS system to find our cache.



What are the rules in Geocaching?



- Geocaching is a relatively new phenomenon. Therefore, the rules are very simple:
 1. Take something from the cache
 2. Leave something in the cache
 3. Write about it in the logbook
- Where you place a cache is up to you.



Starting Our Geocache



- First things first!
- We had to fill it with stuff to exchange.
- So, here we are putting stuff in Ziploc bags to water proof it.



Old Rusty is Ready to Go Outside.



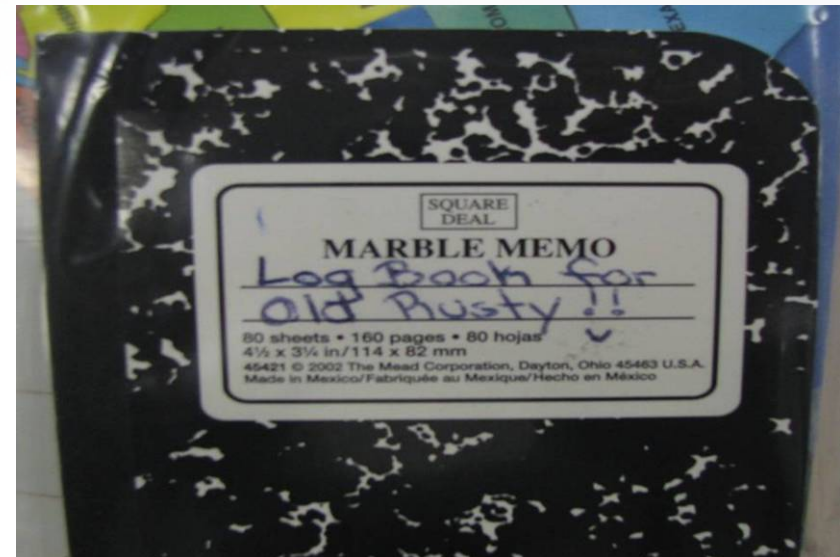
- We are just adding the final touches to him by adding the last couple bags of prizes.



Our Log Book



- We planned and wrote our first entry in the log book.
- The logbook is about to go into the cache so we can place it outside in it's spot.



Goodbye, Old Rusty!



- To say good bye to Old Rusty, we took one last picture with him.
- Each of us got to hold one thing from him.
- The white thing on the lid is the instructions for our geocache.



Finding Old Rusty a Home



- Here is a picture of us tucking Old Rusty into his "home."
- We are trying to cover him up a little with the grass that's hanging over.
- That way, he won't be so easy to spot.



Final Product of Our Internship!



- Finally, here is Old Rusty at home by himself.
- He is just waiting for his first finders.



NC GIS Conference



- Students created a Poster to compete during the K-12 Poster competition
- Students presented their work during a moderated paper session at the conference.



NC GIS Conference Poster



The Students Thoughts:



- Nick Allen (8th) “My favorite thing about the USDA internship was hiding our geocache.”
- Ann Margaret Dietrich (8th) “My internship with the USDA has inspired me to pursue a career in veterinary medicine or another agricultural related career.”
- Stephen Zevgolis(7th)“My favorite thing about the USDA internship was the geocache we placed at our school.”
- Christina Goodson (7th)“I really enjoyed placing our geocache at our school for our fellow students.”



Questions



Centennial **Campus**
MIDDLE SCHOOL



USDA APHIS
Wildlife Services

